

preceding the era of routine femorocerebral catheter angiography. In only two years, the same number were discovered once routine angiography was instituted for evaluating subarachnoid hemorrhages. In the same two-year period, 38 arteriovenous malformations were identified, most of them after angiography was used less hesitantly.

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Tantalum, A New Contrast Agent for Tracheobronchography

DURING THE LAST FIVE YEARS there has been an ongoing evaluation of powdered tantalum as a contrast agent for tracheobronchography. A nasotracheal catheter is passed, under local anesthesia, and its tip positioned in the lobar or segmental bronchus of the area to be opacified. The tantalum is insufflated from a powder blower with compressed air.

Tantalum is a heavy metal with a density of about 16, and it has a number of properties that make it an improved contrast agent. It is non-irritating to the lungs, it adheres to the mucous blanket—thus coating the airways without occluding them; and the material does not cause sensitivity reactions as iodine-containing compounds sometimes do. Because of its extreme density and the obviation of a suspensory medium, only 3 to 4 ml of tantalum are required for opacification of the bronchial tree. This compares with 20 to 40 ml when the usual contrast agents are employed. Tantalum can thus be used in the neonatal period and in patients with diminished respiratory reserve. Experimental studies of mucociliary clearance from the airways are also possible.

There are, however, some drawbacks to the insufflation of a particulate material. In patients with excessive secretions in the airways, adequate dispersion of the powder and opacification of all airways may not be achieved. Tantalum, as with most unoxidized fine particulates, will burn under appropriate conditions; hence the generator system must be grounded, and air, not oxygen, must be used for insufflation. Flow rates of 0.2 to 0.5

liters per second are required for insufflation; care must be taken, therefore, to insure the catheter is never wedged into a small bronchus.

Powdered tantalum for tracheobronchography is still an experimental drug under FDA control and is not available for general use. The most apparent present use is for opacifying the larger central airways. Work is in progress on an inhalation system which may overcome some of the problems of insufflation.

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New Concepts in the Management of Mycosis Fungoides

MYCOSIS FUNGOIDES is a rare form of malignant lymphoma that initially is confined to the skin but eventually progresses to involve extracutaneous sites such as lymph nodes, spleen, liver, lung, bone marrow and other organs. Although when untreated the disease is considered fatal, it seems that adequate treatment when delivered early in the natural course of the disease may offer cure to some patients. In a recent review of 132 mycosis fungoides patients treated by total skin irradiation with 2.5 MeV electrons, it was reported that 14 became disease-free for intervals varying from three to fourteen years following a single course of treatment, and to date none of these patients has had relapse. It seems reasonable to believe that these patients initially had disease limited to the skin and that it was cured by the treatment with electrons.

Long-term remissions (two to four years) have also been achieved by total body topical applications of dilute aqueous solutions of nitrogen mustard. Use of this treatment method has been complicated by the fact that hypersensitivity reactions to the drug develop in about 40 percent of patients. Furthermore, in order to sustain remission when obtained, permanent maintenance therapy was required. In spite of these obvious disadvantages, topical application of nitrogen